

have reiterated the fact, but have added nothing to its interpretation. It is at least noteworthy that the Magellanic plant is closest related apparently, to *P. incana* of the northern Cordillera and Great Plains (Utah and Colorado north to Mackenzie) and that the smallest extremes of the latter are separated only with difficulty from the circumpolar arctic and subarctic *P. stricta*. In eastern North America, centering on the unglaciated areas about the Gulf of St. Lawrence, dwarf extremes of *P. laurentiana*, superficially so strongly resemble *P. incana* that they have been mistaken for it, and in its efarinose form *P. laurentiana* is separated from the arctic *P. stricta* only with difficulty. Similarly, *P. farinosa* of temperate Eurasia is often difficult to distinguish from *P. stricta* and under their treatment of the latter species Pax & Knuth specially say: "Species haec valde affinis *Pr. farinosae* et forsan melius pro ejus varietate habenda." From this line of evidence it may well be that the arctic *P. stricta* is the progenitor from which have been derived *P. farinosa* and other species of Eurasia, *P. laurentiana* of the Gulf of St. Lawrence region, *P. intercedens* of the upper Great Lakes, *P. incana* of the North American cordillera and still farther isolated, *P. decipiens* of the southern American cordillera.¹

(To be continued.)

SOME ILLINOIS ASTERS AND A NEW VARIETY OF *A. MULTIFLORUS*.

H. C. BENKE.

IN September and October of 1927 the writer made a trip from Chicago to southern Illinois and adjacent Missouri, making numerous stops for collecting, with the genus *Aster* under particular observation. Among many specimens obtained the following seem worth recording.

Specimens of *Aster furcatus* Burgess, secured at Crystal Lake, McHenry County, on Sept. 15th (Benke 4366) were found to be with-

¹ Similar lines of descent from living arctic species have been suggested in Fernald, *Persistence of Plants in Unglaciated Areas of Boreal America*, Mem. Am. Acad. xv. 334 (1925); and numerous arctic species besides *Primula stricta*, with endemic representatives along the North American cordillera or about the Gulf of St. Lawrence, have their isolated Magellanic or Falkland ally or allies; in such genera as *Puccinellia*, *Draba*, *Saxifraga*, *Empetrum*, *Euphrasia*, *Antennaria*, *Agoseris*, *Taraxacum*, etc.; while others, like *Carex incurva*, *C. Macloviana*, *Plantago juncoides*, etc., show little, if any, differentiation.

out the usual leaf-lacinations. The region furnished no other specimens of this form.

In the region about Peoria, *Aster Shortii* Lindl., usually in Illinois occurring locally and in small colonies only, became the commonest species—the woods being literally filled with it (*Benke 4371*).

Further on, in the Bushnell-Quincy region, it was noted that *Aster novae-angliae* L., var. *roseus* (Desf.) DC. (*Benke 4372*) was about as common as the usual purple-blue color-form of the species and *Aster salicifolius* Ait. (*Benke 4364*), rare upstate, became very luxuriant and plentiful.

Along the railroad track to the north of Bushnell the well-known *Aster multiflorus* Ait. with bright white rays was found in profusion. Beyond the first mile out of town and to the west of the track my attention was attracted by a small colony of very decidedly blue Asters. These also proved to be *Aster multiflorus* Ait., but with rays blue, or rather blue with a suggestion of purple. The plants, too, were rather more strict, with branches ascending, making them appear somewhat taller than the neighboring white-rayed ones. It was especially noteworthy that the pappus was white as in *Aster ericoides* L., and not tawny colored as is so characteristic of *Aster multiflorus* Ait., but otherwise the plants were not to be distinguished from the latter. The bracts were entirely characteristic of *multiflorus*. About a quarter mile further north I came upon a second and larger colony of several square yards extent. No other colonies were observed in the region, though the territory was travelled in several directions for a number of miles out of the city. Of thousands of the plants of this species through many miles and through many years' observation in the field, these were the first specimens noted that did not have the typical white rays or at most the merest suggestion of color, so at once they were very striking to me. Certainly they formed a conspicuous bit of color in the landscape. For these reasons I feel justified in proposing this variation as

ASTER MULTIFLORUS Ait., var. **caeruleus**, var. nov. Caule stricto; ramis valde adscendentibus; foliis non confertis acutis; ligulis definite caeruleis vel aliquid purpureo-caeruleis; pappo albo.

With the species, but rather more strict, with branches strongly ascending; cauline and rameal leaves acute, not crowded; rays definitely blue, tending slightly to purplish; pappus white.—The type is *H. C. Benke 4373*, Sept. 29, 1927, in Field Museum of Natural

History, Chicago, Illinois. The color of the rays is best described by my field note as blue with a very slight suggestion of purplish. Specimens of *Aster multiflorus* Ait. looked over in Field Museum Herbarium show an occasional tendency to purplish or roseate ligules but none to the blue of this specimen.

Further south, in the triple valley of the Illinois, Mississippi and Missouri Rivers, lies the city of Jerseyville, at the east edge of which, on uncultivated land, I came upon a couple of small colonies—one a mere clump of plants—of *Aster tataricus* L. f. (*Benke 4536*, ex descr.). The region being an old-settled one, it is probable that the species was cultivated a long time back and has persisted. The only published record found for the occurrence in America of this Old World Aster is for New York City, Mem. N. Y. Bot. Gard. 5: 615. (1915).

During the entire trip *Aster ericoides* L., var. *villosus* T. & G. was the single species constantly and abundantly present, for example, *Benke 4362*, Jerseyville.

CHICAGO, ILLINOIS.

VICTORIN'S LES ÉQUISÉTINÉES DU QUÉBEC.—Brother Victorin has followed his detailed studies of the Ferns and the Lycopods of Quebec by a similar elaborate study¹ of the genus *Equisetum*. Covering a region along our northern border, the treatment must be of the greatest interest to students of the New England flora. Like its predecessors in the series this number gives with remarkable detail the histories of treatments of the species and a very full consideration of the more striking variations. The work seems refreshingly sane and the recent proposition to recognize two genera, *Equisetum* and *Hippochaete*, is well met. The revisions which will be of interest to New England botanists are the following. Typical *Equisetum arvense*, with the branches 4-angled and their sheaths 4-toothed, is found to be comparatively southern, the extreme northern plant (Greenland, Labrador and Quebec, and doubtless northern New England), with the branches 3-angled and their sheaths 3-toothed, being var. *boreale* (Bong.) Rupr. Numerous minor forms are recognized under each. Typical *E. palustre* is believed not to occur in America; our plant, distinguished by the sheaths having sharper teeth with narrower white margins, being var. *americanum* Vict. In *E. littorale* several forms are recognized and, as under the other species, beautifully illustrated. *E. limosum* is accorded five vegetative forms besides the typical one, forma *natans* Vict. being new. *E. hyemale* is retained, with the

¹ MARIE-VICTORIN. Les Équisétinées du Québec. Contrib. Lab. Bot. de l'Univ. de Montréal, No. 9. 137 pp. and numerous illustrations. 1927.